

Principle of Justification

Historical Overview and Challenges

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Part 1

Justification in ICRP Recommendations

Origin of Justification Concept

*Planning for the future expansion of nuclear energy programs and the more extensive uses of radiation, requires measures intended to protect whole populations. **Genetic damage** is of greatest concern in this regard. [...] The Commission is aware of the fact that a proper **balance between risks and benefits** cannot yet be made, since it requires a more quantitative appraisal of both the probable biological damage and the probable benefits than is presently possible. Furthermore, it must be realized that the factors influencing the balancing of risks and benefits will **vary from country to country** and that the final decision rests with each country (insofar as operations within one country do not affect other countries).*

[Publication 1, para.17]

Justification as Basic Principle

- Publication 26

No practice shall be adopted unless its introduction produces a positive net benefit.

The decision to introduce countermeasures should be based on a balance of the detriment which it carries and the reduction in the exposure which it can achieve.

- Publication 103

*Any decision that alters the radiation exposure situation should do **more good than harm**.*

What “More Good than Harm” Means

*The Commission recommends that, when activities involving an increased or decreased level of radiation exposure, or a risk of potential exposure, are being considered, **the expected change in radiation detriment** should be explicitly included in the decision-making process. The consequences to be considered are not confined to those associated with the radiation – they include **other risks and the costs and benefits of the activity**. Sometimes, the radiation detriment will be a small part of the total. Justification thus goes far beyond the scope of radiological protection.*

[Publication 103, para.205]

Question

Benefits

- Radiation detriment
 - Other risks and costs
-

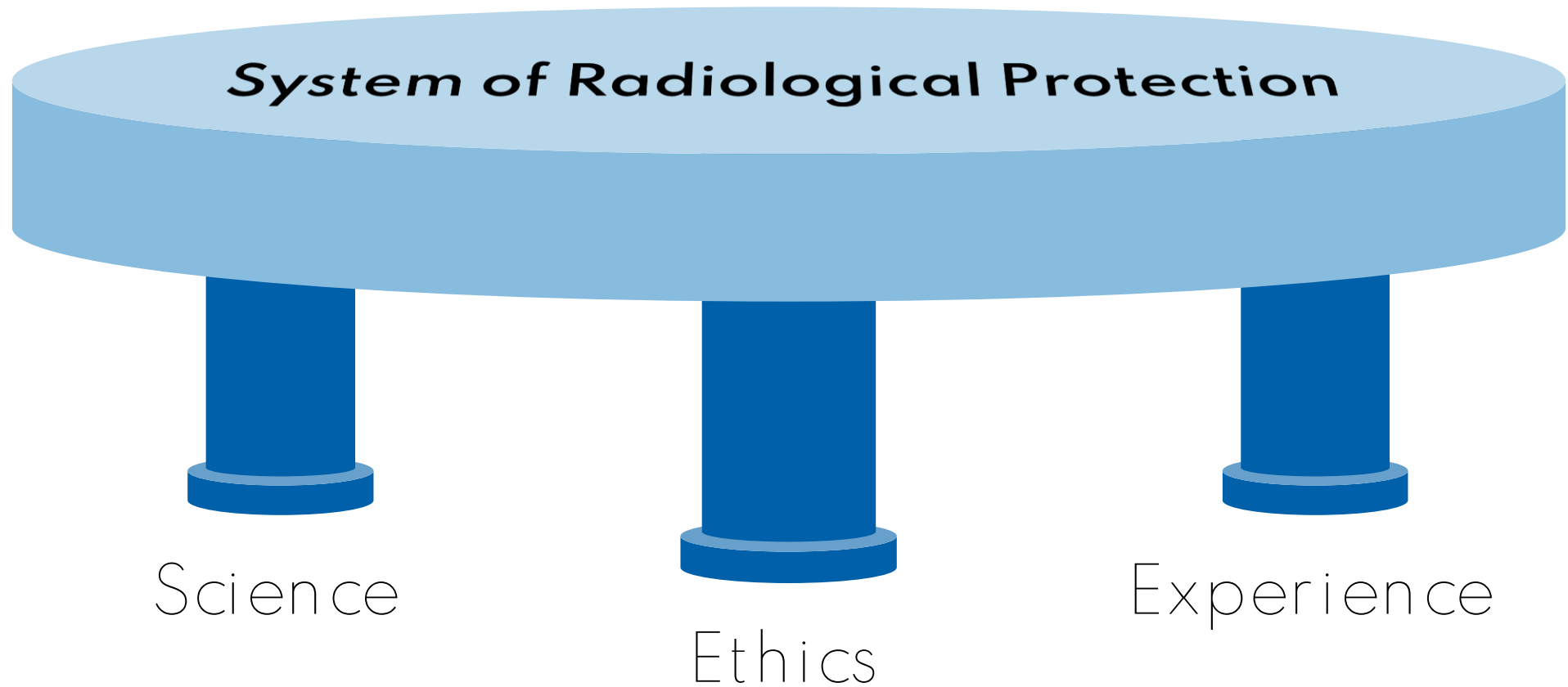
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Entails value judgments

Part 2

Developments Since 2007
Recommendations

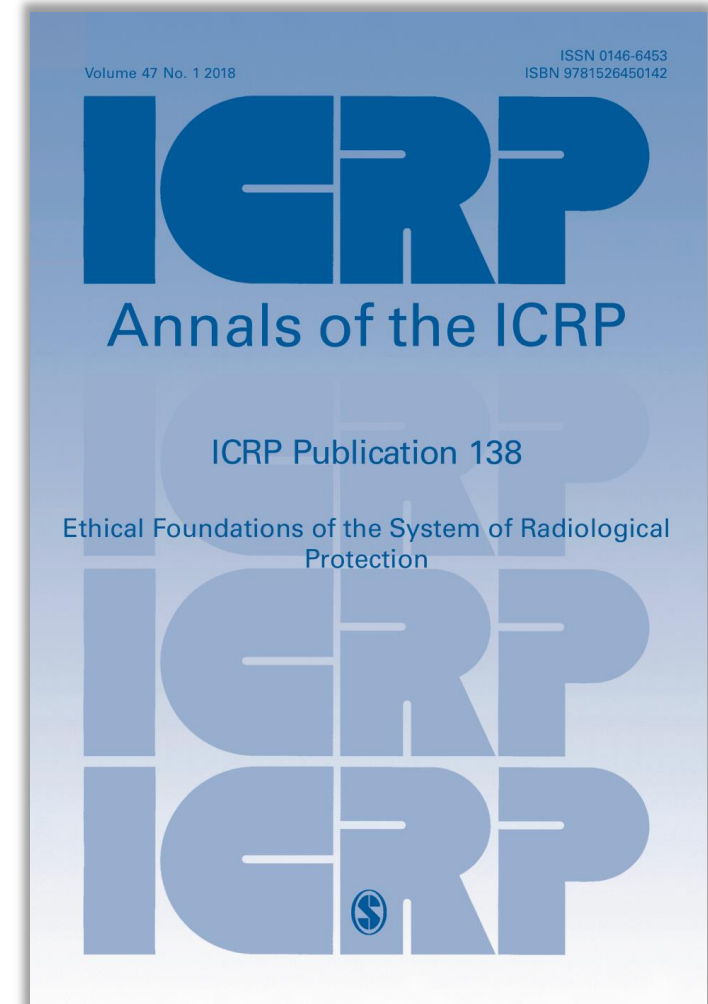
Three Pillars of System of RP



Ethical Foundations of RP

*A particular objective of this publication is to outline what can reasonably be expected from radiological protection to individuals and societies. In so doing, it **helps to clarify the inherent value judgements** made in achieving the aim of the system of radiological protection as underlined by the Commission in Publication 103, and thus hopefully **facilitates decision-making processes and communication** on radiation risk.*

[Publication 138, para.8]



Experience in Fukushima

Protective/remedial actions were effective to keep doses low.

However

Health of the elderly deteriorated after the evacuation.

People's daily life was disrupted.

Lesson Learnt

What matters is
not just radiation exposure,
but life in the exposure situation.

Widening Scope

Prevent/mitigate detrimental effects of radiation



Ensure/improve well-being in exposure situations

Whose Well-Being?

- My family's well-being
 - My pet's well-being
 - My friends' well-being
 - Future generation's well-being
 - Environmental well-being
- ... has to do with my well-being

SUSTAINABLE DEVELOPMENT GOALS



Noteworthy Developments

- Ethical foundations of RP
- Holistic approach to well-being
- Sustainable Development Goals

Part 3

ICRP Task Group 124

Task Group 124

Application of the Principle of Justification

- Task Group of Committee 4
- Approved by the Main Commission on 30 April 2022
- Started activities in October 2022

TGI24 Members

- Nobuhiko Ban (Chair)
- Julie Burt (Secretary)
- Kimberly Applegate
- Michael Boyd
- Jessica Bryony Callen-Kovtunova
- Hefin Wyn Griffiths
- Eunok Han
- Toshimitsu Homma
- Carl-Magnus Larsson
- Mika Markkanen
- Andrew Mayall
- Sergio Salerno
- Adrienne Ethier (Technical Secretary)
- Hazem Suman (IAEA)
- Bernard Le Guen (IRPA)
- Christopher Mogg (OECD-NEA)
- Emilie van Deventer (WHO)

Mandate

- Deliberate on application of the principle of justification in all three types of exposure situations
- Consider all categories of exposure for humans (workers, members of the public, and patients) and non-humans
- Take particular note of situations where radiation exposure is a major concern, and at the same time, societal and ethical values are considered to have important implications
- Emphasise the ethical values described in Publication 138

Work Process

- Develop a short list of situations where societal, ethical values would be of particular importance
- Organise open topical workshops to exchange insights and experiences with those interested

What “more good than harm” means in society today
On what basis the judgement should be made

Part 4

Format of Workshop

Sessions

Session 1: Planned exposure situation, medical application

Moderator: Kimberly Applegate

Session 2: Planned exposure situation, non-medical sector

Moderator: Andrew Mayall

Session 3: Emergency exposure situation

Moderator: Jessica Bryony Callen-Kovtunova

Session 4: Existing exposure situation

Moderator: Mika Markkanen

Format

- Webinar platform of Zoom is used throughout the workshop.
- During each Session, the moderator gives an introductory presentation, and then leads the discussion.
- In the discussion, participants who want to make comments are asked to type in the Q&A box. The moderator pick them up for the discussion.

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